н

UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/667,528	09/22/2000	Raimund Sonning	2789-26	9877

23117   7590   04/22/2004

NIXON & VANDERHYE, PC
1100 N GLEBE ROAD
8TH FLOOR
ARLINGTON, VA 22201-4714

EXAMINER
BAYARD, EMMANUEL

ART UNIT	PAPER NUMBER
2631	

DATE MAILED: 04/22/2004   8

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-331* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *23 and 24* is/are allowed.

6)☒ Claim(s) *1-8,11-22 and 25-31* is/are rejected.

7)☒ Claim(s) *9 and 10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

This is in response to amendment filed on 2/23/04 in which claims 1-31 are pending. The applicant's amendments have been fully considered therefore but they are are moot based on the new ground of rejection. Therefore this case is made final.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-8, 11-22 and 25-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lim et al U.S. Patent No 6,182,265 B1 in view of Bremmer et al U.S. Patent No 5,506,866.

As per claims 1, 11, 13, 18-22 and 25 Lim et al teaches an interleaver of a transmitter for interleaving input data bit sequences (BS) of M data bits comprising code symbols each consisting of a number N of data bits and control information associated with every code symbol the control information to be used to control processing in said transmitter and consisting of a number L of control bits indicating specific states for each corresponding code symbol comprising: a Dmux (see fig.3 element 15) for receiving encoded symbols and control signal; convolutional coder is similar to the claimed (control information/code symbol **encoding means**) (see fig.3 element 12) for encoding said L + N bit control information/code symbol data words into data words of K bits, where K<L + N, according to a predetermined encoding scheme; an interleaving memory

for storing (see fig.3 elements 16-17) said encoded data words at memory locations thereof.

However the DMUX of Lim et al does not teach <u>combining means for combining</u> the respective data bits of each code symbol with the associated L control bits into a control information/ code symbol data word of L + N bits.

Bremer et al teaches an adder is similar to the claimed (<u>combining means for combining</u>) (see fig.7 element 135 and col.9, lines 8-10 and col.10, lines 60-67) the respective data bits of each code symbol with the associated L control bits into a control information/ code symbol data word of L + N bits.

It would have been obvious to one of ordinary skill in the art to implement the teaching of Bremer et al into Lim as to provide storage for any data accumulated during that period of time when the other encoder is providing symbols to the MUX as taught by Bremer (See col.10, lines 65-67).

As per claims 2, 8, 14, 26 the interleaver of Lim et al does teach write/read means in row and column directions (see fig.3 elements 13-14) and symbol decoding means is taught by Bremer (see fig.8 element 190). Furthermore implementing the teaching of Bremer into Lim would have been obvious to one skilled in the art as to accommodate any delays introduced by the decoder in decoding the received signals as taught by Bremer (see col.10, lines 10-12).

As per claims 3, 27 the interleaving of Lim does teach a frame start , a power bit (see see abstract and col.3, lines 35-40). Note that a frame is known in the art as plurality of time slot having a header, a maker. Since Lim teaches a frame function therefore the time slot start and the marker is inherently taught by Lim.

As per claims 4, 28 the interleaver of Lim teaches a power bit (see col.3, lines 35-40). Therefore a transmission power on/off is inherently includes in Lim.

As per claims 5, 29, the interleaver of Lim does teach a selection means of write/read means (see abstract).

As per claims 6, 30 the interleaver of Lim does teach a convolutional encoding having a coding rate (see fig.3 element 12).

As per claims 7, 31 the interleaver of Lim does teach interleaving memory having number of rows and columns (see fig.3 elements 13 and 14).

As per claim 12, the transmitter of Bremer does teaches a modulation means (see fig.7 element 145). Furthermore implementing such teaching into Lim would have been obvious to one skilled in the art as to perform well known QAM function.

As per claim 15, the method of Bremer does include a processing decoded code (see fig.8 element 190). Furthermore implementing the teaching of Bremer into Lim would have been obvious to one skilled in the art as to accommodate any delays introduced by the decoder in decoding the received signals as taught by Bremer (see col.10, lines 10-12).

As per claim 16, the interleaving of Lim does teach a frame start , bit (see abstract and col.3, lines 35-40). Note that a frame is known in the art as plurality of time slot having a header, a maker. Since Lim teaches a frame function therefore the time slot start and the marker is inherently taught by Lim.

As per claim 17, the interleaver of Lim teaches a power bit (see col.3, lines 35-40). Therefore a transmission power on/off is inherently includes in Lim.

Allowable Subject Matter

Claims 9-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 23-24 are allowed over the prior art of record.

The following is a statement of reasons for the indication of allowable subject matter: a shift means for shifting the register (ro, r1) which was read at the last write cycle and the second registers of the register banks (b0, b1) while reading in the next odd and even bits of a next input data bit sequence to the respective second register (r1) of each register bank as recited in claims 8-10 and 23-24.

Conclusion

3.　Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Atalla U.S. Patent No 4,198,619 teaches a programmable security system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is 703 308-9573. The examiner can normally be reached on Monday-Friday (7:Am-4:30PM) Alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed Ghayour can be reached on 703 306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Emmanuel Bayard
Primary Examiner
Art Unit 2631

4/19/04